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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,287	08/26/2003	Mitsutoshi Hasegawa	03500.017504.	2681

5514 7590 05/19/2006

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EXAMINER
ROSE, KIESHA L

ART UNIT	PAPER NUMBER
2822	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/647,287	HASEGAWA ET AL.	
	Examiner	Art Unit	
	Kiesha L. Rose	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 5-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 5-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the RCE filed 17 February 2006.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1,2 and 4-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 2 disclose an illuminant and the frame comprising glass, these limitations are not in the original specification and are considered new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joshi et al. (U.S. Publication 2002/0192935) in view of Pommer et al. (U.S. Publication 2003/0201462).

In re claim 1, Joshi discloses a semiconductor device (Fig. 1i) that contains an envelope with a first substrate (10), a second substrate (a circuit substrate can be mounted on the first substrate (Page 2, Paragraph 16)), a frame (30) interposed between the first and second substrates, a low melting point metal (35) for bonding the first substrate to the frame, a plurality of electron-emitting devices (Page 2, Paragraph 0022), wherein the first substrate has a first region (14) and a second region (12) which are brought into contact with the low melting point metal, and in the first region, a material capable of higher maintaining airtightness with the low melting point metal than the second region is in contact with the low melting point metal, while in the second region, a material having a stronger binding power on the low melting point metal than the first region is in contact with the low melting point metal. In regards to airtightness as stated in the specification, it states that the low melting point metal material, can be made break- proof and can maintain its airtightness optimally if the one or both bonding portions have a portion where the low melting point metal material is bonded directly to the face plate or to a host material of the outer frame and a portion where the low melting point metal material is bonded to a base material that is formed on the face plate or on the host material of the outer frame. (Page 5, lines 1-13) Therefore the first region (12) has good airtightness since it is bonded to a host material, which is bonded on the substrate. In regards to the envelope being maintained in a reduced pressure

atmosphere this is a product by process limitation, a *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted). Joshi discloses all the limitations except for the substrate to be glass. Whereas Pommer discloses a semiconductor device (Fig. 2b) that contains a glass substrate (17). The glass substrate is formed because of it high transparency. (Paragraph 0056) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Joshi by incorporating the substrate to be glass because of its high transparency as taught by Pommer.

In re claims 5 and 7, Joshi discloses a first and second substrate where the second substrate is a circuit substrate, since the second substrate is a circuit substrate and different devices can be formed from a circuit substrate such as a display device and image display device, the display element and image display can be formed in the envelope and a television signal can be received by the image display device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the devices of Joshi and Pommer by incorporating a circuit substrate that can host display device and image display devices ás taught by Joshi.

Claims 2,6 and 8 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Joshi et al. (U.S. Publication 2002/0192935) in view of Pommer.

In re claim 2, Joshi discloses a semiconductor device (Fig. 2c) that contains an envelope with a first substrate (10), a second substrate (a circuit substrate can be mounted on the first substrate (Page 2, Paragraph 16)), a frame (30) interposed between the first and second substrates, a low melting point metal (12) for bonding the first substrate to the frame, wherein the frame has a first region (44) and a second region (14) which are brought into contact with the low melting point metal, and in the first region, a material capable of higher maintaining airtightness with the low melting point metal than the second region is in contact with the low melting point metal, while in the second region, a material having a stronger binding power on the low melting point metal than the first region is in contact with the low melting point metal. In regards to

airtightness as stated in the specification, it states that the low melting point metal material, can be made break- proof and can maintain its airtightness optimally if the one or both bonding portions have a portion where the low melting point metal material is bonded directly to the face plate or to a host material of the outer frame and a portion where the low melting point metal material is bonded to a base material that is formed on the face plate or on the host material of the outer frame. (Page 5, lines 1-13)

Therefore the first region (12) has good airtightness since it is bonded to a host material, which is bonded on the frame. In regards to the envelope being maintained in a reduced pressure atmosphere this is a product by process limitation, a *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re*

Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted). Joshi discloses all the limitations except for the substrate to be glass. Whereas Pommer discloses a semiconductor device (Fig. 2b) that contains a glass substrate (17). The glass substrate is formed because of it high transparency. (Paragraph 0056) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Joshi by incorporating the substrate to be glass because of its high transparency as taught by Pommer.

In re claims 6 and 8, Joshi discloses a first and second substrate where the second substrate is a circuit substrate, since the second substrate is a circuit substrate and different devices can be formed from a circuit substrate such as a display device and image display device, the display element and image display can be formed in the envelope and a television signal can be received by the image display device. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the devices of Joshi and Pommer by incorporating a circuit substrate that can host display device and image display devices as taught by Joshi.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joshi and Pommer.

In re claims 9-10, Joshi and Pommer disclose all the limitations except for the vacuum level. This limitation is a process limitation, a *"product by process"* claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173

USPQ 685 (CCPA 1972): *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); In re Fessmann, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a *"product by, all of"* claim, and not the patentability of the process, and that an old or obvious product, whether claimed in *"product by process"* claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Even though product –by [-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted)."

Response to Arguments

Applicant's arguments with respect to claims 1,2 and 5-10 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that the Jones reference does not disclose an airtightness ability, this is erroneous as stated in the previous office action (11/14/05) that the specification of the present application disclosed that the low melting point metal material, can be made break- proof and can maintain its airtightness optimally if the one or both bonding portions have a portion where the low melting point metal material is bonded directly to the face plate or to a host material of the outer frame and a portion where the low melting point metal material

is bonded to a base material that is formed on the face plate or on the host material of the outer frame. (Page 5, lines 1-13) Since the Jones reference discloses the low melting point metal material is bonded to the host material then it would be inherent that it would have an airtightness ability as disclosed in the claims. Therefore the Jones reference discloses the claimed limitations and the rejection stands.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLR